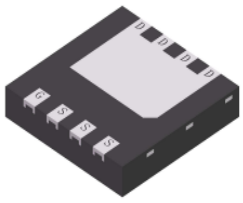
S-LPB8619DT0AG

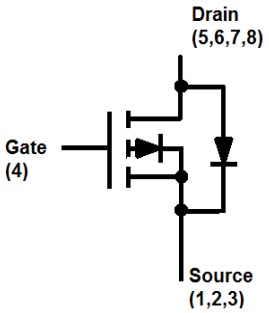
P-Channel 60-V (D-S) MOSFET



DFN3333-8A

1. FEATURES

- Low RDS(on) trench technology.
- Low thermal impedance.
- Fast switching speed.
- We declare that the material of product compliance with RoHS requirements and Halogen Free.
- S-prefix for automotive and other applications requiring unique site and control change requirements; AEC-Q101 qualified and PPAP capable.



2. APPLICATIONS

- Power Routing
- DC/DC Conversion
- Motor Drives

3. DEVICE MARKING AND ORDERING INFORMATION

Device	Marking	Shipping
S-LPB8619DT0AG	A19	2000/Tape&Reel

4. MAXIMUM RATINGS(Ta = 25ºC)

Parameter		Symbol	Limits	Unit
Drain-Source Voltage		VDS	-60	V
Gate-Source Voltage		VGS	±20	
Continuous Drain Current (Note 1)	TA = 25℃	ID	-5	A
	TA = 70℃		-4	
	TC = 25℃		-13	
	TC = 70℃		-11	
Pulsed Drain Current (Note 2)		IDM	-20	
Continuous Source Current (Diode Conduction) (Note 1)		IS	-5	
Avalanche Current (L = 0.1mH)		IAS	15	A
Avalanche Energy (L = 0.1mH)		EAS	11.25	mJ
Power Dissipation (Note 1)	TA = 25℃	PD	2.1	W
	TA = 70℃		1.3	
Operating Junction and Storage Temperature Range		TJ , Tstg	-55~+150	℃

5. THERMAL CHARACTERISTICS

Parameter	Symbol	Limits	Unit
Maximum Junction-to-Ambient (Note 1)	RθJA	60	℃/W
Maximum Junction-to-Ambient (Note 3)	RθJA	172	
Maximum Junction-to-Case	RθJC	6	

1.Surface mounted on "1.5 x 1.5" FR4 board using 1 sq in pad, 2 oz Cu.
2.Pulse width limited by maximum junction temperature.
3.Surface mounted on FR4 board using the minimum recommended pad size.

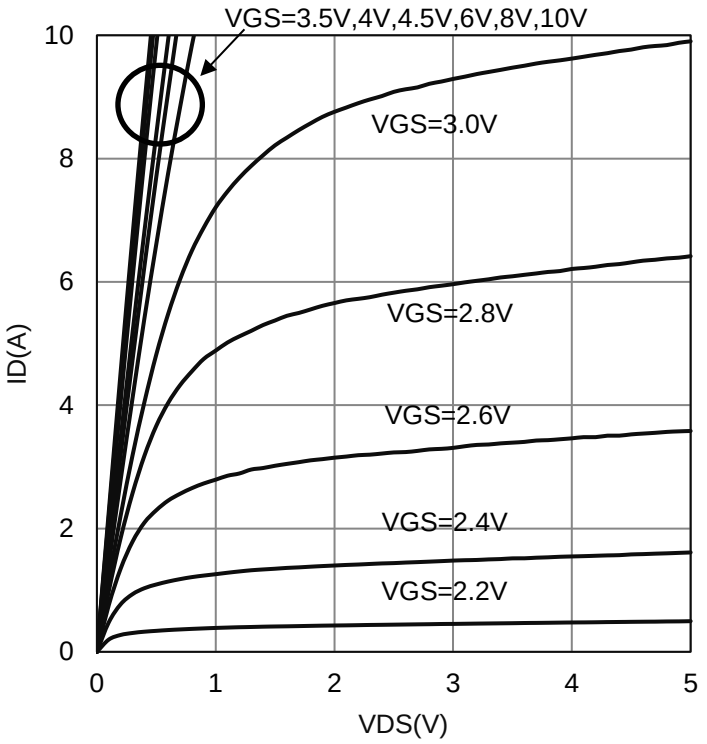
6. ELECTRICAL CHARACTERISTICS (Ta= 25°C)

Characteristic		Symbol	Min.	Typ.	Max.	Unit
Static						
Drain–Source Breakdown Voltage (VGS = 0 V, ID = -250 μA)		VBRDSS	60	-	-	V
Gate Threshold Voltage (VDS = VGS , ID = -250 μA)		VGS(th)	-1	-	-3	V
Gate Leakage Current (VDS = 0 V, VGS = ±20 V)		IGSS	-	-	± 100	nA
Zero Gate Voltage Drain Current (VDS = -48 V, VGS = 0 V) (VDS = -48 V, VGS = 0 V, TJ = 55°C)		IDSS	- -	- -	-1 -10	μA
Drain-Source On-Resistance(Note 4) (VGS = -10 V, ID = -6 A) (VGS = -4.5 V, ID = -4.5 A)		RDS(ON)	- -	44 56	55 74	mΩ
Diode Forward Voltage (Note 4) (IS = -2.1 A, VGS = 0 V)		VSD	-	-0.83	-1.2	V
Dynamic (Note 5)						
Total Gate Charge	(VDS = -30 V, VGS = -4.5 V,ID = -4 A)	Qg	-	12.6	-	nC
Gate-Source Charge		Qgs	-	3.54	-	
Gate-Drain Charge		Qgd	-	4.98	-	
Turn-On Delay Time	(VDS = -30 V, RL = 7.5 Ω,ID = -4 A,VGEN = -10 V, RGEN = 6 Ω)	td(on)	-	13	-	ns
Rise Time		tr	-	9	-	
Turn-Off Delay Time		td(off)	-	57	-	
Fall Time		tf	-	24	-	
Input Capacitance	(VDS = -15 V, VGS = 0 V, f = 1 MHz)	Ciss	-	1573	-	pF
Output Capacitance		Coss	-	92.5	-	
Reverse Transfer Capacitance		Crss	-	76.6	-	

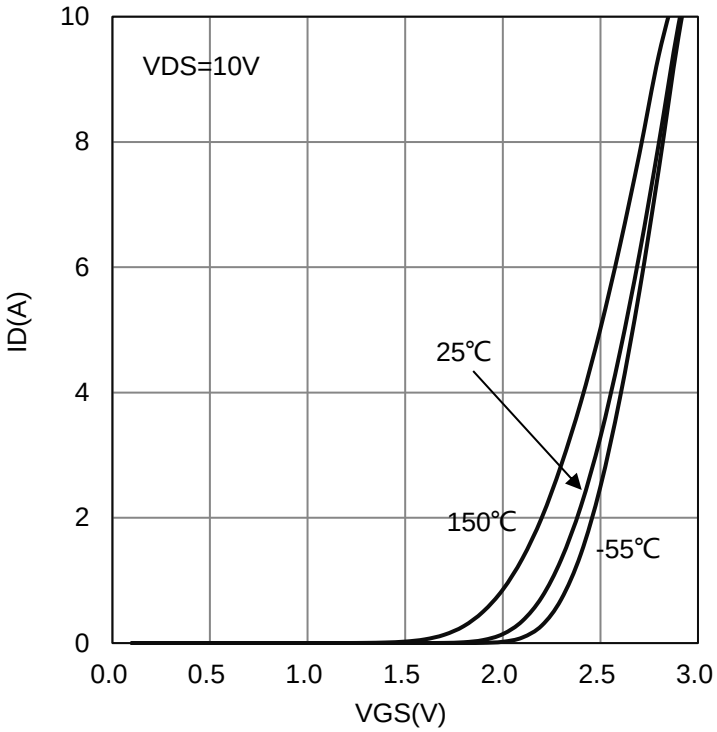
4.Pulse test: PW ≤ 300us duty cycle ≤ 2%.

5.Guaranteed by design, not subject to production testing.

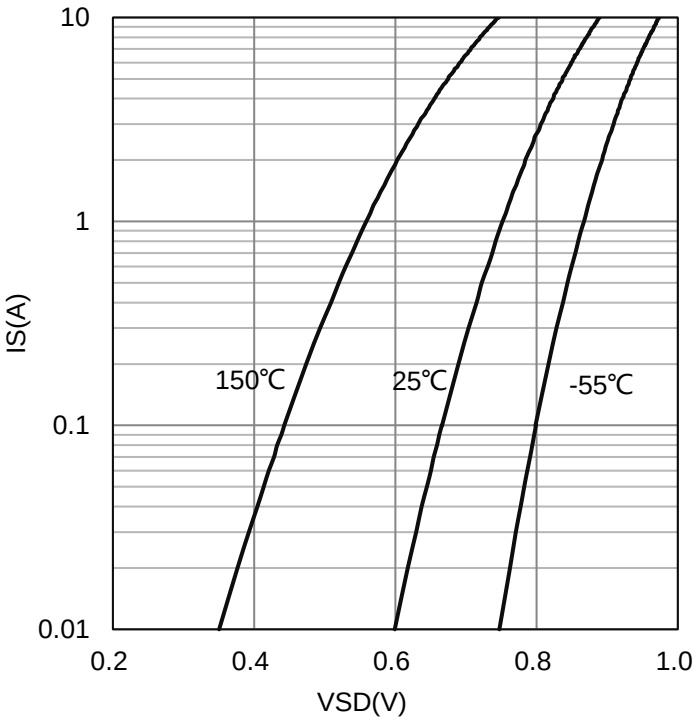
7.ELECTRICAL CHARACTERISTICS CURVES



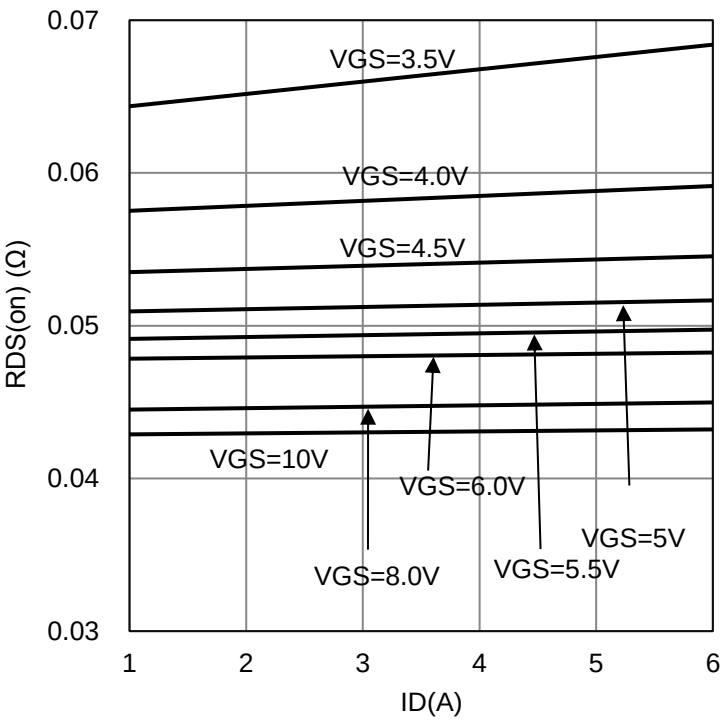
ID vs. VDS



ID vs. VGS

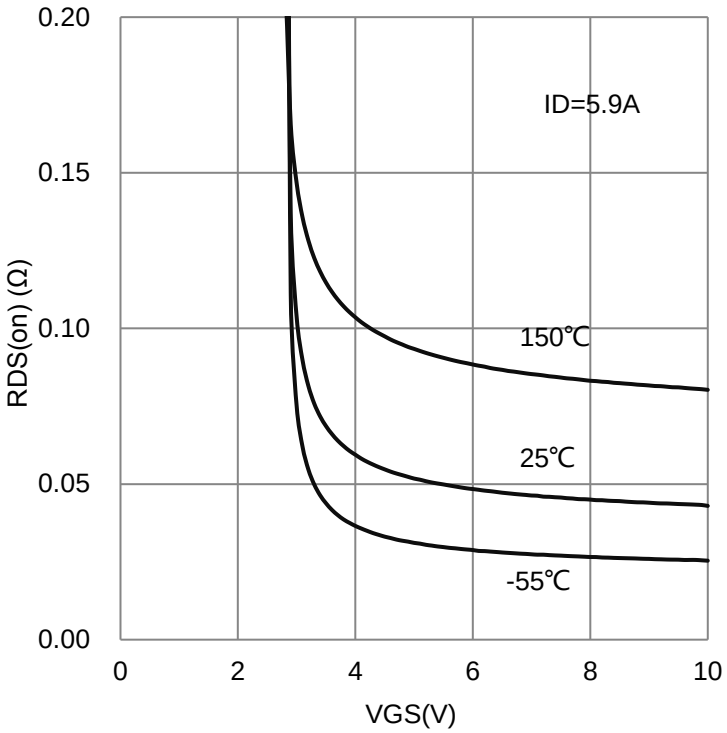


IS vs. VSD

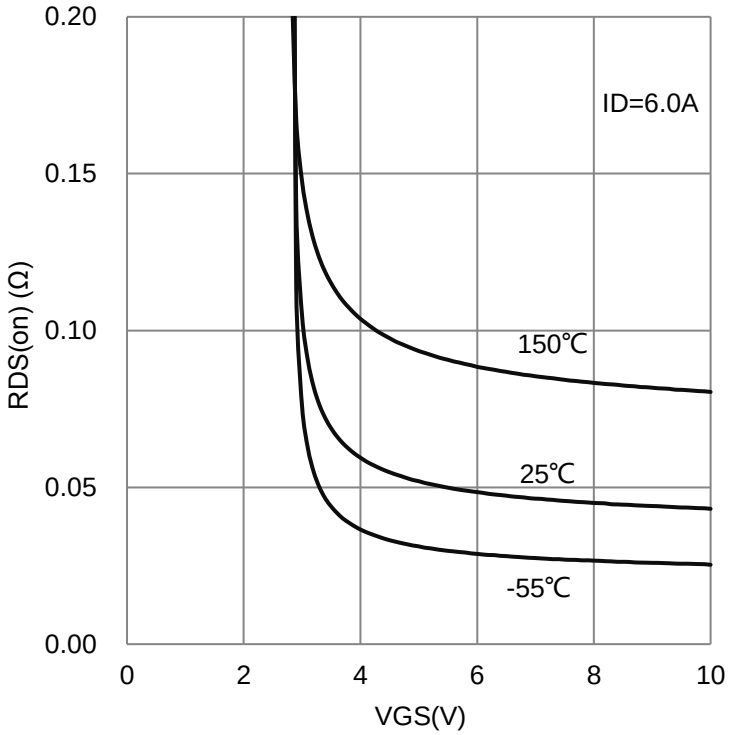


RDS(on) vs. ID

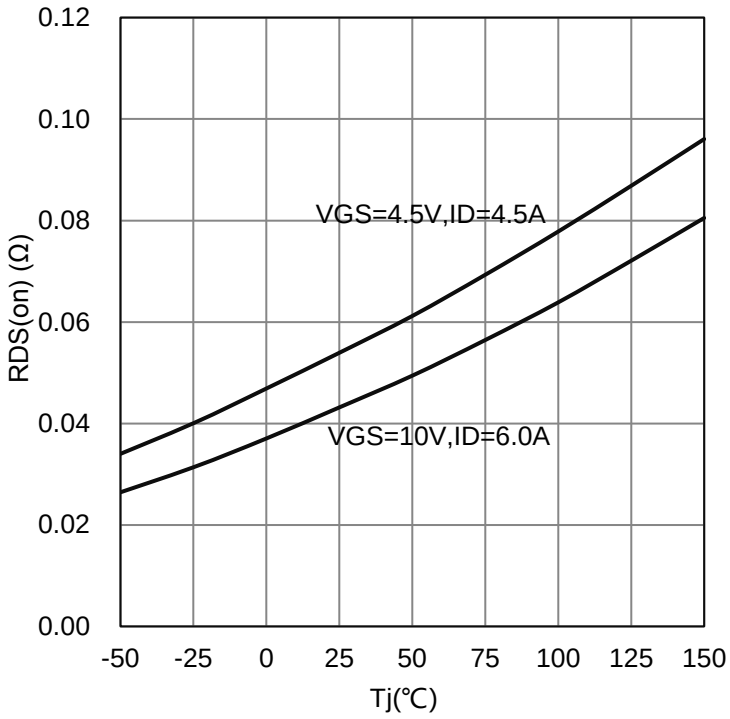
7.ELECTRICAL CHARACTERISTICS CURVES(Con.)



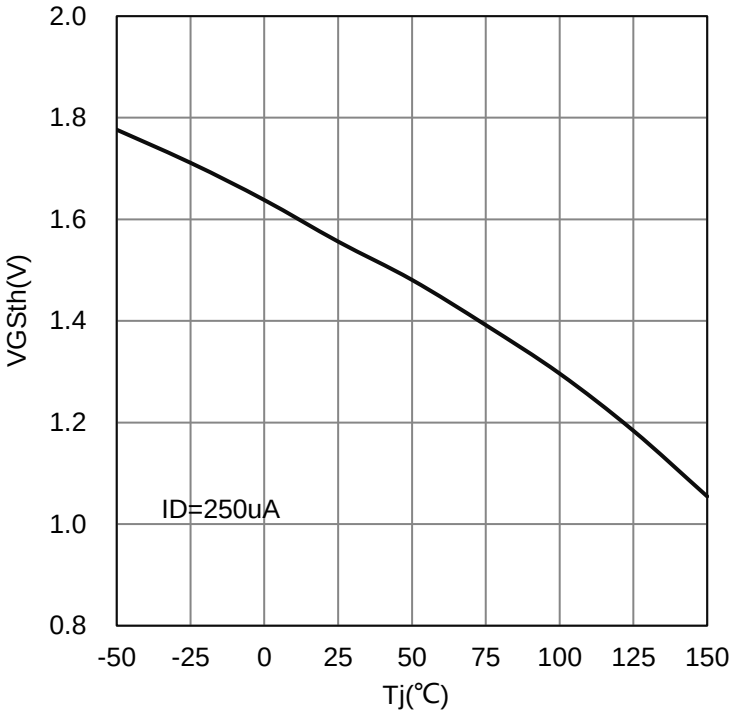
RDS(on) vs. VGS(1)



RDS(on) vs. VGS(2)

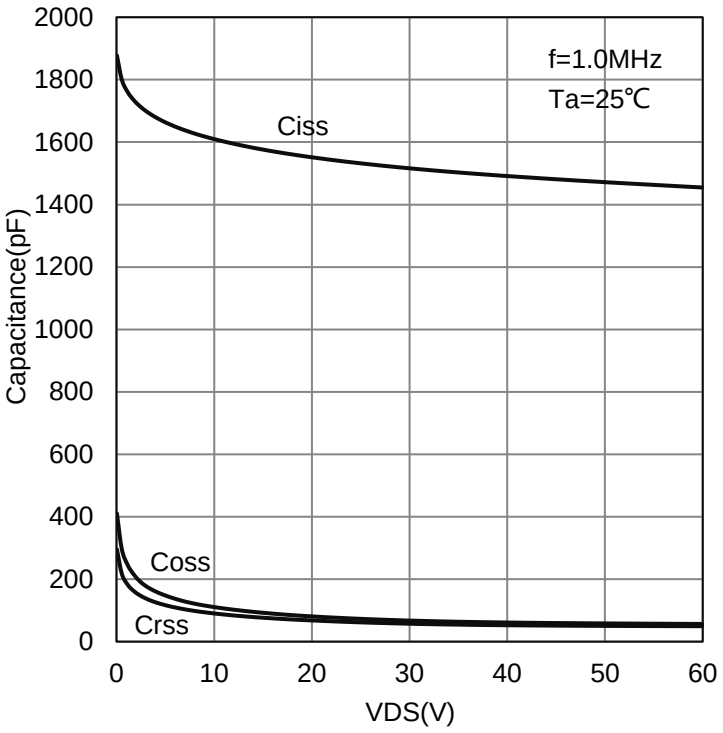


RDS(on) vs. Tj

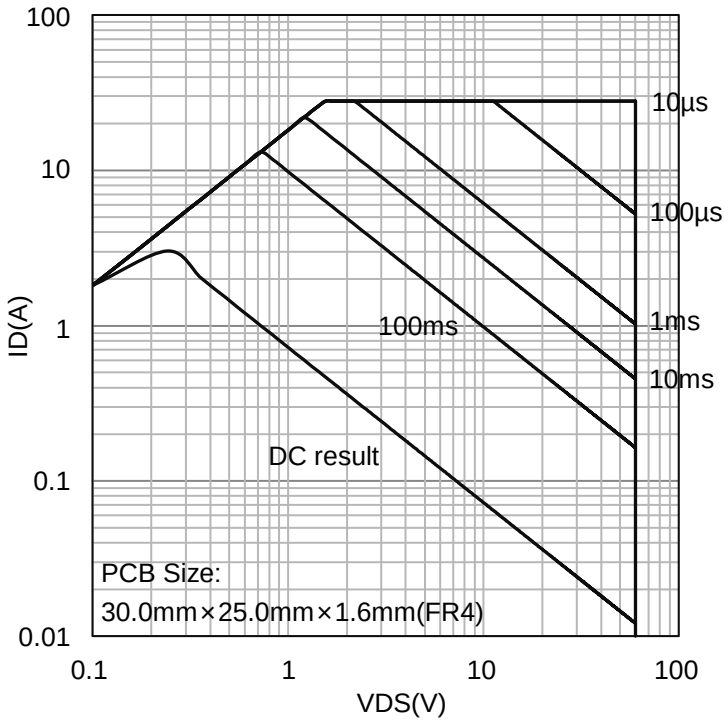


VGSTH vs. Tj

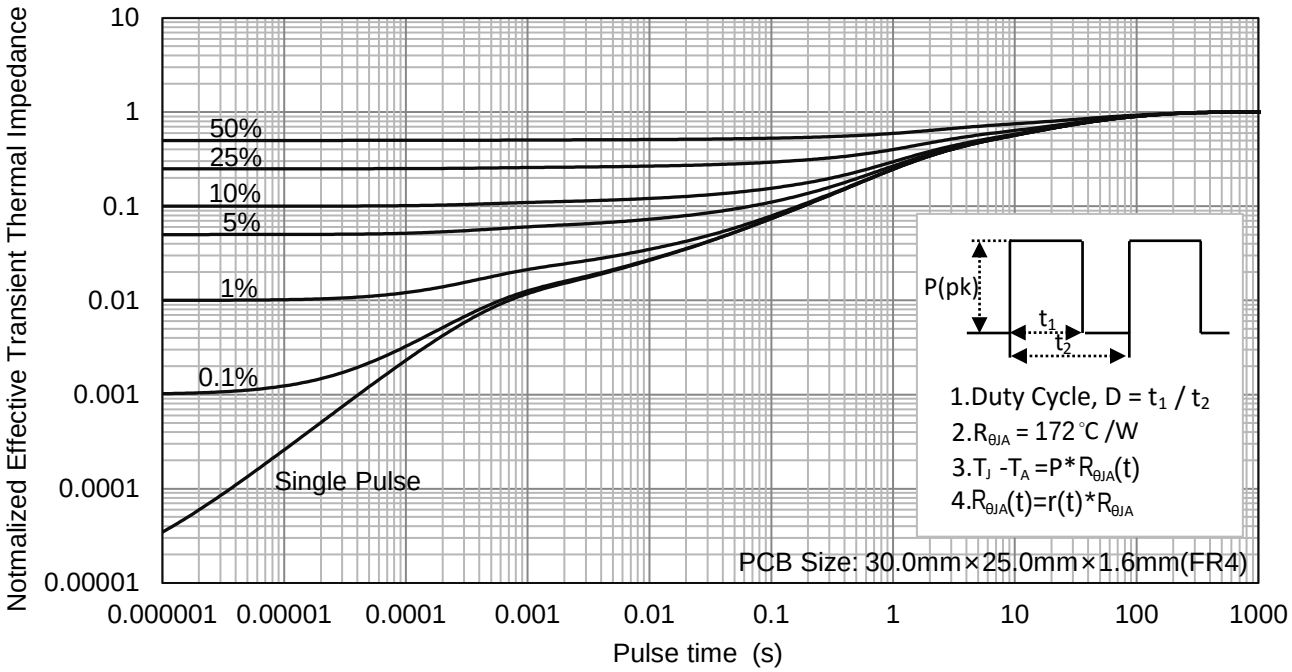
7.ELECTRICAL CHARACTERISTICS CURVES(Con.)



Capacitance

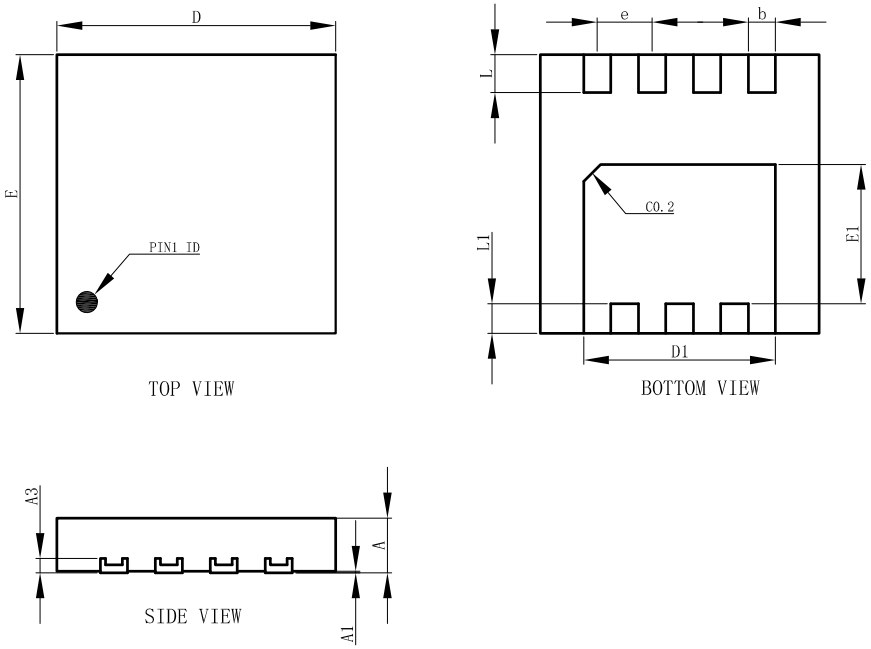


Safe Operating Area



Thermal Response

8.OUTLINE AND DIMENSIONS



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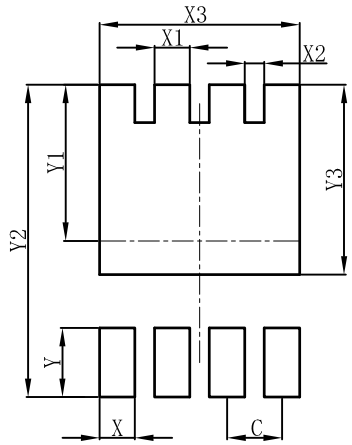
DIM	MIN	NOR	MAX
A	0.60	0.65	0.70
A1	0.00	0.03	0.05
b	0.27	0.32	0.37
D	3.25	3.30	3.35
E	3.25	3.30	3.35
D1	2.22	2.27	2.32
E1	1.60	1.65	1.70
e	0.65BSC		
L	0.40	0.45	0.50
L1	0.30	0.35	0.40
A3	0.152REF.		
All Dimensions in mm			

9.SOLDERING FOOTPRINT



DFN3333-8A	
DIM	(mm)
C	0.65
X	0.42
X1	0.42
X2	0.23
X3	2.37
Y	0.70
Y1	1.85
Y2	3.70
Y3	2.25

DISCLAIMER

- Curve guarantee in the specification. The curve of test items with electric parameter is used as quality guarantee. The curve of test items without electric parameter is used as reference only.

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